

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Original) A thermoplastic polymer composition, comprising a blend of a polyolefin resin and a chemically-modified polyolefin resin, the modified polyolefin resin comprising a polymethylene backbone comprising randomly substituted covalently bonded groups comprising a cyclodextrin compound; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

2. (Original) The thermoplastic polymer composition of claim 1 wherein composition comprises about 100 parts by weight of the polyolefin resin and about 0.01 to 10 parts by weight of the modified polyolefin; wherein the polyolefin comprises a melt index of about 0.5 to 100 g-10 min⁻¹ and the modified polyolefin is derived from a polyolefin having a melt index of about 0.7 to 200 g-10 min⁻¹.

3. (Original) The thermoplastic polymer composition of claim 1 wherein the polyolefin comprises a melt index of about 1 to 75 g-10 min⁻¹ and the modified polyolefin is derived from a polyolefin having a melt index of about 1 to 100 g-10 min⁻¹.

4. (Original) The thermoplastic polymer composition of claim 1 wherein the polyolefin comprises a polyethylene.

5. (Original) The thermoplastic polymer composition of claim 1 wherein the modified polyolefin comprises a modified polyethylene.

6. (Original) The thermoplastic polymer composition of claim 1 wherein the polyolefin comprises a polypropylene.

7. (Original) The thermoplastic polymer composition of claim 1 wherein the polyolefin comprises a polyethylene and the modified polyolefin comprises a modified polypropylene.

8. (Original) The thermoplastic polymer composition of claim 1 wherein the polyolefin comprises a poly(ethylene-co-propylene).

9. (Original) The thermoplastic polymer composition of claim 1 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

10. (Original) The thermoplastic polymer composition of claim 1 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic anhydride modified polyolefin wherein the polyolefin comprises about 0.02 to 5 weight percent maleic anhydride.

11. (Original) The thermoplastic polymer composition of claim 1 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic anhydride modified polyolefin wherein the polyolefin comprises about 0.02 to 2 weight percent maleic anhydride.

12. (Original) The thermoplastic polymer composition of claim 4 wherein the polyethylene comprises a low-density polyethylene.

13. (Original) The thermoplastic polymer composition of claim 4 wherein the polyethylene comprises a linear low-density polyethylene.

14. (Original) The thermoplastic polymer composition of claim 4 wherein the polyethylene comprises a high-density polyethylene.

15. (Original) The thermoplastic polymer composition of claim 1 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group at the -2, -3 or the -6 position of a glucose moiety in the cyclodextrin.

16. (Original) A chip comprising a shaped polyolefin resin particulate with a major dimension of less than about 10 millimeters and a weight of about 20 to 50 milligrams, the chip comprising a blend of a polyolefin resin and a modified polyolefin resin, the modified polyolefin resin comprising a polymethylene backbone having randomly substituted covalently bonded groups derived from a cyclodextrin compound, the chip comprising about 100 parts by weight of the polyolefin resin and about 0.01 to 10 parts by weight of the modified polyolefin; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

17. (Original) The chip of claim 16 wherein the polyolefin comprises a melt index of about 0.5 to 100 g-10 min.⁻¹ and the modified polyolefin is derived from a polyolefin with a melt index of 0.7 to 200 g-10 min.⁻¹.

18. (Original) The chip of claim 16 wherein the polyolefin wherein the polyolefin comprises a melt index of about 1 to 75 g-10 min.⁻¹ and the modified polyolefin is derived from a polyolefin having a melt index of about 1 to 100 g-10 min.⁻¹

19. (Original) The chip of claim 16 wherein the polyolefin comprises a polyethylene.

20. (Original) The chip of claim 16 wherein the modified polyolefin comprises a modified polyethylene.

21. (Original) The chip of claim 16 wherein the polyolefin comprises a polypropylene.

22. (Original) The chip of claim 16 wherein the modified polyolefin comprises a modified polypropylene.

23. (Original) The chip of claim 16 wherein the polyolefin comprises a poly(ethylene-co-propylene).

24. (Original) The chip of claim 16 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

25. (Original) The chip of claim 16 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 5 weight percent maleic anhydride.

26. (Original) The chip of claim 16 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 2 weight percent maleic anhydride.

27. (Original) The chip of claim 19 wherein the polyethylene comprises a low-density polyethylene.

28. (Original) The chip of claim 19 wherein the polyethylene comprises a linear low-density polyethylene.

29. (Currently amended) The ~~thermoplastic polymer composition~~ chip of claim 19 wherein the polyethylene comprises a high-density polyethylene.

30. (Original) The chip of claim 16 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group.

31. (Original) The chip of claim 16 wherein the cyclodextrin compound has a substituent substantially on at least one substituent at the -2,3 or the -6 position of a glucose moiety.

32. (Currently Amended) A container comprising an enclosed volume surrounded by a polyolefin web, the web comprising a blend of a polyolefin resin and a modified polyolefin resin, the modified polyolefin resin comprising a polymethylene backbone having randomly substituted covalently bonded groups derived from a cyclodextrin compound, the ~~chip~~ container comprising

about 100 parts by weight of the polyolefin resin and about 0.01 to 10 parts by weight of the modified polyolefin; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

33. (Original) The container of claim 32 wherein the web comprises a laminate comprising a paperboard layer and a bonded polyolefin layer.

34. (Original) The container of claim 32 wherein the web is filled with a liquid food.

35. (Original) The container of claim 34 wherein web has a capacity of about 100 mL to 3 liters and the liquid food comprises a citrus juice.

36. (Original) The container of claim 32 wherein the polyolefin comprises a polyolefin having a melt index of about 0.5 to 100 g-10 min.⁻¹

37. (Original) The container of claim 32 wherein the polyolefin comprises a polyolefin having a melt index of about 0.7 to 200 g-10 min.⁻¹

38. (Original) The container of claim 32 wherein the polyolefin comprises a polyethylene.

39. (Original) The container of claim 32 wherein the modified polyolefin comprises a modified polyethylene.

40. (Original) The container of claim 32 wherein the polyolefin comprises a polypropylene.

41. (Original) The container of claim 32 wherein the modified polyolefin comprises a modified polypropylene.

42. (Original) The container of claim 32 wherein the polyolefin comprises a poly(ethylene-co-propylene).

43. (Original) The container of claim 32 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

44. (Original) The container of claim 32 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 2 weight percent maleic anhydride.

45. (Original) The container of claim 32 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 1 weight percent maleic anhydride.

46. (Currently Amended) The ~~chip~~ container of claim 38 wherein the polyethylene comprises a low-density polyethylene.

47. (Currently Amended) The ~~chip~~ container of claim 38 wherein the polyethylene comprises a linear low-density polyethylene.

48. (Currently Amended) The ~~chip~~ container of claim 38 wherein the polyethylene comprises a high-density polyethylene.

49. (Original) A film comprising a blend of a polyolefin resin and a modified polyolefin resin, the modified polyolefin resin comprising a polymethylene backbone having randomly substituted groups derived from a cyclodextrin compound, the film comprising about 100 parts by weight of the polyolefin resin and about 0.01 to 10 parts by weight of the modified polyolefin; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

50. (Original) The film of claim 49 wherein the film comprises a laminate comprising a paperboard layer and a polyolefin layer.

51. (Original) The film of claim 49 wherein the polyolefin comprises a melt index of about 0.5 to 100 g-10 min.⁻¹

52. (Original) The film of claim 49 wherein the polyolefin comprises a melt index of about 0.7 to 200 g-10 min.⁻¹

53. (Original) The film of claim 49 wherein the polyolefin comprises a polyethylene.

54. (Original) The film of claim 49 wherein the modified polyolefin comprises a modified polyethylene.

55. (Original) The film of claim 49 wherein the polyolefin comprises a polypropylene.

56. (Original) The film of claim 49 wherein the modified polyolefin comprises a modified polypropylene.

57. (Original) The film of claim 49 wherein the polyolefin comprises a poly(ethylene-co-propylene).

58. (Original) The film of claim 49 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

59. (Original) The film of claim 49 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group at the -2, -3 or the -6 position of the glucose moiety in the cyclodextrin.

60. (Original) The film of claim 49 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 5 weight percent maleic anhydride.

61. (Original) The film of claim 49 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 2 weight percent maleic anhydride.

62. (Original) The film of claim 53 wherein the polyethylene comprises a low-density polyethylene.

63. (Original) The film of claim 53 wherein the polyethylene comprises a linear low-density polyethylene.

64. (Original) The film of claim 53 wherein the polyethylene comprises a high-density polyethylene.

65. (Original) A thermoplastic polymer composition comprising a blend of a polyolefin resin and a modified polyolefin resin, the modified polyolefin resin comprising a cyclodextrin bonded to a backbone carbon of the polymer through a maleic acid residue or to a carbon in a pendent group through a maleic acid residue; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

66. (Original) The thermoplastic polymer composition of claim 65 wherein the composition comprises about 100 parts by weight of the polyolefin resin and about 0.01 to 10 parts by weight of the modified polyolefin, the polyolefin comprises a polyolefin having a melt index of about 0.5 to 150 g-10 min⁻¹ and the modified polyolefin is derived from a polyolefin having a melt index of about 0.7 to 200 g-10 min⁻¹.

67. (Original) The thermoplastic polymer composition of claim 66 wherein the polyolefin comprises a melt index of about 1 to 75 g-10 min⁻¹ and the modified polyolefin is derived from a polyolefin having a melt index of about 1 to 100 g-10 min⁻¹.

68. (Original) The thermoplastic polymer composition of claim 65 wherein the polyolefin comprises a polyethylene.

69. (Original) The thermoplastic polymer composition of claim 65 wherein the modified polyolefin comprises a modified polyethylene.

70. (Original) The thermoplastic polymer composition of claim 65 wherein the polyolefin comprises a polypropylene.

71. (Original) The thermoplastic polymer composition of claim 65 wherein the polyolefin comprises a polyethylene resin and the modified polyolefin comprises a modified polypropylene.

72. (Original) The thermoplastic polymer composition of claim 65 wherein the polyolefin comprises a poly(ethylene-co-propylene).

73. (Original) The thermoplastic polymer composition of claim 65 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

74. (Original) The thermoplastic polymer composition of claim 65 wherein the modified polyolefin comprises about 0.1 to 8 wt% of the cyclodextrin modified polyolefin.

75. (Original) The thermoplastic polymer composition of claim 74 wherein the modified polyolefin comprises about 0.02 to 1 weight percent maleic acid compound.

76. (Original) The thermoplastic polymer composition of claim 68 wherein the polyethylene comprises a low-density polyethylene.

77. (Original) The thermoplastic polymer composition of claim 68 wherein the polyethylene comprises a linear low-density polyethylene.

78. (Original) The thermoplastic polymer composition of claim 65 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group at the -2,3 position of a glucose moiety in the cyclodextrin.

79. (Original) The thermoplastic polymer composition of claim 65 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group at the -6 position of a glucose moiety in the cyclodextrin.

80. (Original) The thermoplastic polymer composition of claim 65 wherein the cyclodextrin compound is linked to the maleic acid moiety with least one -OH group at the -2,3 position of a glucose moiety in the cyclodextrin.

81. (Original) The thermoplastic polymer composition of claim 65 wherein the cyclodextrin compound is linked to the maleic acid moiety with least one -OH group at the -6 position of a glucose moiety in the cyclodextrin.

82. (Previously presented) A thermoplastic polymer chip comprising a shaped polyolefin resin chip with a major dimension of less than about 10 millimeters and a weight of about 15 to 50 milligrams, the chip comprising a polyolefin resin and a modified polyolefin resin, the modified polyolefin resin comprising a cyclodextrin bonded to a backbone carbon of the polymer through a maleic acid residue or to a carbon in a pendent group through a maleic acid residue; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

83. (Previously presented) The thermoplastic polymer chip of claim 82 wherein chip comprises about 100 parts by weight of the polyolefin resin and about 0.01 to 10 parts by weight of the modified polyolefin, the polyolefin comprises melt index of about 0.5 to 150 g-10 min⁻¹ and the modified polyolefin is derived from a polyolefin comprising a melt index of about 0.7 to 200 g-10 min⁻¹.

84. (Original) The thermoplastic polymer chip of claim 82 wherein the polyolefin comprises a melt index of about 1 to 75 g-10 min⁻¹ and the modified polyolefin is derived from a polyolefin having a melt index of about 1 to 100 g-10 min⁻¹.

85. (Original) The thermoplastic polymer chip of claim 82 wherein the polyolefin comprises a polyethylene.

86. (Original) The thermoplastic polymer chip of claim 82 wherein the modified polyolefin comprises a modified polyethylene.

87. (Original) The thermoplastic polymer chip of claim 82 wherein the polyolefin comprises a polypropylene.

88. (Original) The thermoplastic polymer chip of claim 82 wherein the polyolefin comprises a polyethylene resin and the modified polyolefin comprises a modified polypropylene.

89. (Original) The thermoplastic polymer chip of claim 82 wherein the polyolefin comprises a poly(ethylene-co-propylene).

90. (Original) The thermoplastic polymer chip of claim 82 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

91. (Currently amended) The thermoplastic polymer ~~composition~~ chip of claim 82 wherein the modified polyolefin comprises about 0.1 to 8 wt% of the cyclodextrin modified polyolefin.

92. (Currently amended) The thermoplastic polymer ~~composition~~ chip of claim 91 wherein the modified polyolefin comprises about 0.02 to 2 weight percent maleic acid compound.

93. (Original) The thermoplastic polymer chip of claim 85 wherein the polyethylene comprises a low-density polyethylene.

94. (Original) The thermoplastic polymer chip of claim 85 wherein the polyethylene comprises a linear low density polyethylene.

95. (Original) The thermoplastic polymer chip of claim 85 wherein the polyethylene comprises a high density polyethylene.

96. (Original) The thermoplastic polymer chip of claim 82 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group at the -2 position of a glucose moiety in the cyclodextrin.

97. (Original) The thermoplastic polymer chip of claim 82 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group at the -3 position of a glucose moiety in the cyclodextrin.

98. (Original) The thermoplastic polymer chip of claim 82 wherein the cyclodextrin compound is linked to the maleic acid moiety with least one -OH group at the -6 position of a glucose moiety in the cyclodextrin.

99. (Original) The thermoplastic polymer chip of claim 82 wherein the cyclodextrin compound is linked to the maleic acid moiety with least one -OH group at the -6 position of a glucose moiety in the cyclodextrin.

100. (Original) A thermoplastic polymer composition, comprising a modified polyolefin resin comprising a polymethylene backbone comprising randomly substituted covalently bonded groups comprising a cyclodextrin compound; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

101. (Original) The thermoplastic polymer composition of claim 100 wherein the modified polyolefin is derived from a polyolefin having a melt index of about 0.7 to 200 g-10 min.⁻¹

102. (Original) The thermoplastic polymer composition of claim 100 wherein the modified polyolefin comprises a modified polyethylene.

103. (Original) The thermoplastic polymer composition of claim 100 wherein the modified polyolefin comprises a modified polypropylene.

104. (Original) The thermoplastic polymer composition of claim 100 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

105. (Original) The thermoplastic polymer composition of claim 100 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic anhydride modified polyolefin wherein the polyolefin comprises about 0.02 to 5 weight percent maleic anhydride and wherein the polyolefin comprises a melt index of about 1 to 75 g-10 min.⁻¹ and the modified polyolefin is derived from a polyolefin having a melt index of about 1 to 100 g-10 min.⁻¹

106. (Original) The thermoplastic polymer composition of claim 100 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic anhydride modified polyolefin wherein the polyolefin comprises about 0.02 to 2 weight percent maleic anhydride.

107. (Original) The thermoplastic polymer composition of claim 102 wherein the polyethylene comprises a low-density polyethylene.

108. (Original) The thermoplastic polymer composition of claim 102 wherein the polyethylene comprises a linear low-density polyethylene.

109. (Original) The thermoplastic polymer composition of claim 102 wherein the polyethylene comprises a high-density polyethylene.

110. (Original) The thermoplastic polymer composition of claim 100 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group at the -2, -3 or the -6 position of a glucose moiety in the cyclodextrin.

111. (Previously presented) The thermoplastic chip of claim 82 wherein the chip comprises a polyolefin resin and a coating of the modified polyolefin resin.

112. (Previously presented) The thermoplastic chip of claim 82 wherein the chip comprises a blend of the polyolefin resin and the modified polyolefin resin.

113. (Previously presented) The thermoplastic chip of claim 111 wherein the amount of the coating of the modified polymer is selected such that when combined with the polyolefin resin to form a blend, the blend comprises about 0.01 to 10 wt% of the modified polymer.

114. (Previously presented) A method of manufacturing a barrier material comprising the steps of:

(a) combining a polymer and a modified polymer, the modified polymer comprising a cyclodextrin bonded to a backbone of the polymer through a maleic anhydride residue or to a carbon in a pendent group through a maleic anhydride residue; wherein the cyclodextrin compound is substantially free of the compound in central core of the cyclodextrin ring; and

(b) extruding the polymer and modified polymer to form a barrier composition comprising about 0.01 to 10 wt% of the modified polymer.

115. (New) A bottle cap comprising an enclosed volume surrounded by a polyolefin web, the web comprising a blend of a polyolefin resin and a modified polyolefin resin, the modified polyolefin resin comprising a polymethylene backbone having randomly substituted covalently bonded groups derived from a cyclodextrin compound, the chip comprising about 100 parts by weight of the polyolefin resin and about 0.01 to 10 parts by weight of the modified polyolefin per part by weight of the resin; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

116. (New) The bottle cap of claim 115, wherein the web comprises a cap liner laminate comprising a paperboard layer bonded to polyolefin layer.

117. (New) The bottle cap of claim 115, wherein threads along inner surface of the bottle cap mate with threads along the top, external surface of the bottle.

118. (New) The bottle cap of claim 115, wherein side walls extend from the bottom surface of said bottle cap and form a substantially cylindrical cavity.

119. (New) The bottle cap of claim 115 wherein the polyolefin comprises a polyolefin having a melt index of about 0.5 to 100 g-10 min.⁻¹

120. (New) The bottle cap of claim 115 wherein the polyolefin comprises a polyolefin having a melt index of about 0.7 to 200 g-10 min.⁻¹

121. (New) The bottle cap of claim 115 wherein the polyolefin comprises a polyethylene.

122. (New) The bottle cap of claim 115 wherein the modified polyolefin comprises a modified polyethylene.

123. (New) The bottle cap of claim 115 wherein the polyolefin comprises a polypropylene.

124. (New) The bottle cap of claim 115 wherein the modified polyolefin comprises a modified polypropylene.

125. (New) The bottle cap of claim 115 wherein the polyolefin comprises a poly(ethylene-co-propylene).

126. (New) The bottle cap of claim 115 wherein the modified polyolefin comprises a modified poly(ethylen-co-propylene).

127. (New) The bottle cap of claim 115 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 2 weight percent maleic anhydride.

128. (New) The bottle cap of claim 115 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 1 weight percent maleic anhydride.

129. (New) The bottle cap of claim 121 wherein the polyethylene comprises a low-density polyethylene.

130. (New) The bottle cap of claim 121 wherein the polyethylene comprises a linear low-density polyethylene.

131. (New) The bottle cap of claim 121 wherein the polyethylene comprises a high-density polyethylene.

132. (New) A bottle cap liner comprising an enclosed volume surrounded by a polyolefin web, the web comprising a blend of a polyolefin resin and a modified polyolefin resin, the modified polyolefin resin comprising a polymethylene backbone having randomly substituted covalently bonded groups derived from a cyclodextrin compound, the chip comprising about 100 parts by weight of the polyolefin resin and about 0.01 to 10 parts by weight of the modified polyolefin; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

133. (New) The bottle cap liner of claim 132 wherein the web comprises a laminate comprising a paperboard layer and a bonded polyolefin layer.

134. (New) The bottle cap liner of claim 132 wherein the polyolefin comprises a polyolefin having a melt index of about 0.5 to 100 g-10 min.⁻¹

135. (New) The bottle cap liner of claim 132 wherein the polyolefin comprises a polyolefin having a melt index of about 0.7 to 200 g-10 min.⁻¹

136. (New) The bottle cap liner of claim 132 wherein the polyolefin comprises a polyethylene.

137. (New) The bottle cap liner of claim 132 wherein the modified polyolefin comprises a modified polyethylene.

138. (New) The bottle cap liner of claim 132 wherein the polyolefin comprises a polypropylene.

139. (New) The bottle cap liner of claim 132 wherein the modified polyolefin comprises a modified polypropylene.

140. (New) The bottle cap liner of claim 132 wherein the polyolefin comprises a poly(ethylene-co-propylene).

141. (New) The bottle cap liner of claim 132 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

142. (New) The bottle cap liner of claim 132 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 2 weight percent maleic anhydride.

143. (New) The bottle cap liner of claim 132 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 1 weight percent maleic anhydride.

144. (New) The bottle cap liner of claim 136 wherein the polyethylene comprises a low-density polyethylene.

145. (New) The bottle cap liner of claim 136 wherein the polyethylene comprises a linear low-density polyethylene.

146. (New) The bottle cap liner of claim 136 wherein the polyethylene comprises a high-density polyethylene.

147. (New) A method comprising grafting an unmodified cyclodextrin onto a polyolefin using extrusion processing to cause the reaction of the cyclodextrin and the polymer.

148. (New) A method of claim 147, wherein extruding and grafting the polymer occurs in one-step extrusion.

149. (New) A method of claim 148, wherein extruding and grafting the polymer occurs simultaneously.

150. (New) A method of claim 147, wherein the grafting comprises a hydroxyl group of the cyclodextrin reacting with a functional group on the polyolefin.

151. (New) A method of claim 150, wherein the hydroxyl group of the cyclodextrin reacts with an anhydride moiety on the polyolefin.

152. (New) A method of claim 151, wherein the hydroxyl group of the cyclodextrin reacts with a maleic anhydride moiety on the polyolefin.

153. (New) A method of claim 150, wherein the hydroxyl group of the cyclodextrin reacts with an epoxide moiety on the polyolefin.

154. (New) A method of claim 147, wherein the grafting is melt grafting.

155. (New) A method of claim 147, wherein the polyolefin is poly(ethylene), poly(propylene), poly(ethylene-co-propylene), ethylene/methyl acrylate copolymer, or ethylene/ethyl acrylate copolymer.

156. (New) A method of claim 148, wherein the polyolefin is poly(ethylene), poly(propylene), poly(ethylene-co-propylene), ethylene/methyl acrylate copolymer, or ethylene/ethyl acrylate copolymer.

157. (New) A method of claim 149, wherein the polyolefin is poly(ethylene), poly(propylene), poly(ethylene-co-propylene), ethylene/methyl acrylate copolymer, or ethylene/ethyl acrylate copolymer.

158. (New) A method of claim 150, wherein the polyolefin is poly(ethylene), poly(propylene), poly(ethylene-co-propylene), ethylene/methyl acrylate copolymer, or ethylene/ethyl acrylate copolymer.

159. (New) A method of claim 151, wherein the polyolefin is poly(ethylene), poly(propylene), poly(ethylene-co-propylene), ethylene/methyl acrylate copolymer, or ethylene/ethyl acrylate copolymer.

160. (New) A method of claim 152, wherein the polyolefin is poly(ethylene), poly(propylene), poly(ethylene-co-propylene), ethylene/methyl acrylate copolymer, or ethylene/ethyl acrylate copolymer.

161. (New) A method of claim 153, wherein the polyolefin is poly(ethylene), poly(propylene), poly(ethylene-co-propylene), ethylene/methyl acrylate copolymer, or ethylene/ethyl acrylate copolymer.